

Gall Midges of Certain Chenopodiaceae (Dip.).

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The discovery in 1913 of a species (*Aplonyx sarcobati* Felt) referable to an European genus and at that time unknown outside of the Mediterranean region, was most interesting. The rearing early this year of a closely allied genus, described below, from greasewood, adds to the interest, and on investigating the distribution of these gall midges and their close allies, it is noteworthy that none have been found outside of the Mediterranean region and the arid plains of the West. The conditions obtaining in the former section are suggestive in that they may throw some light upon probable revelations following further exploration. In the Mediterranean region, species of *Aplonyx* and *Stefaniella* have been reared from *Atriplex*, *Dibaldratia* and *Stefaniola* from *Salsola*, *Baldratia* and *Baldratiella* from *Salicornia*, while in America *Aplonyx* has been reared from *Sarcobatus* and *Protaplonyx* from greasewood, (?) *Sarcobatus vermiculatus*.

All of these genera are closely related in that they present the typical *Lasioptera* aspect. They may be distinguished by the simple or feebly dentate claws and a distinct tendency toward reduction in both the antennal and palpal segments, the former ranging in number for the seven genera above named from six to fourteen and being mostly twelve or thirteen, while five of the genera have but one palpal segment, *Stefaniella* two, and *Protaplonyx* four. There is also in this group of genera a marked tendency toward an aciculate, chitinous ovipositor.

The Chenopodiaceous flora of our great plains is at least moderately abundant and it is reasonable to suppose that there is a number of new species and possibly new genera in addition to the one described below, awaiting discovery. These saline- or alkaline-loving plants present certain characters in common and as in the case of *Aster* and *Solidago*, appear to have a peculiar midge fauna.

PROTAPLONYX n. g.

The genus has the typical *Lasioptera* wing, the normal short mouth-parts, 12 or 13 antennal segments, the third and fourth not coalescent or at least separated by a distinct constriction; quadriarticulate palpi, heavy simple claws and an aciculate ovipositor in the female. Type *P. hagani* n. sp.

Protaplonyx hagani n. sp.

The small flies described below were reared January 4, 1916, in large numbers from small, folded, swollen leaflets of greasewood (? *Sarcobatus vermiculatus*) by Mr. Harold R. Hagan, of the Agricultural Experiment Station, Logan, Utah, from material collected October 25, 1915, on the Austin farm, Wellington, Utah, in a locality near Price.

Gall. The insects appear to prevent the unfolding and cause a swelling of the leaflets, producing somewhat irregular, slightly distorted growths about 12 mm. long and with a diameter of 1.5 mm. Apparently one or more larvae may occur in each of the infested leaflets.

Larva. Length 2.5 mm., moderately stout, reddish orange. Head small, tapering to a narrowly rounded apex. Antennae bi-articulate, the basal segment disk-like, broad, the terminal segment with a length nearly four times its diameter and tapering to a narrowly rounded apex; segmentation moderately distinct; skin coarsely shagreened; posterior extremity produced as a pair of sublateral, somewhat irregular, tapering, finger-like processes with a few short, coarse setae apically.

The small larva in the preparation has a length of .75 mm., is short, stout, with both extremities broadly rounded and with no sign of the conspicuous caudal appendages described above. The skin is coarsely shagreened and unfortunately the head is concealed.

Pupa. Length 1 mm., reddish brown, the wing cases extending to the fifth abdominal segment, the leg-cases to the seventh abdominal segment, the dorsum of the abdominal segments in the male at least, thickly set with short, stout, triangular, chitinous spines.

Male. Length .75 mm. Antennae extending to the base of the abdomen, sparsely haired, dark brown; 12 segments, the third and fourth nearly free, the fifth with a length one-fourth greater than its diameter; the terminal segment, evidently composed of two, closely fused, with a length nearly three times its diameter and tapering apically to a broadly rounded apex. Palpi; first segment indistinct, second with a length about twice its diameter, slender, the third nearly as long as the second, the fourth a little longer than the third, dilated and broadly oval.

Mesonotum dull black, the submedian lines sparsely haired. Scutellum and postscutellum dark reddish brown.

Abdomen nearly naked, reddish brown, darker basally; genitalia dark brown. Genitalia; basal clasp segment short, stout; terminal clasp segment moderately long, swollen at the base and tapering apically. Harpes moderately long, swollen basally and tapering to an irregularly rounded, sparsely setose apex.

Wings hyaline, costa reddish brown, the third vein uniting with the thickened costa just before the middle, the whitish discal spot small, the fifth vein joining the posterior margin at the distal third, its branch near the basal third; halteres yellowish white apically, pale straw basally.

Coxae dark brown, legs mostly brownish straw; claws moderately slender, strongly curved, simple, the pulvilli as long as the claws.

Female. Length .75 mm. Antennae short, dark brown; 12 segments, the third and fourth narrowly fused, the fifth with a length one-fourth greater than its diameter, the terminal segment with a length nearly three times its diameter, narrowly rounded apically and evidently composed of three closely fused segments. Palpi; first segment short, irregular, the second narrowly oval, with a length over twice its diameter, the third one-half longer than the second, more slender, slightly swollen distally; terminal segment about two-thirds the length of the second, narrowly oval.

Mesonotum dull black, the submedian lines sparsely haired. Scutellum and postscutellum dark reddish brown.

Abdomen reddish brown, the basal segments dark brown, the stout ovipositor a little darker than the distal segments. Ovipositor when extended probably as long as the body, the terminal portion slender and tapering to a narrow, acuminate apex. Other characters as in the male.

Type: Cecid. a2709, State Museum, Albany, New York.

A Hermaphrodite of *Andrena cressoni* Robt. (Hym.).

On April 25, 1915, while collecting bees from the blossoms of plum trees at White Heath, Illinois, I obtained a specimen of *Andrena cressoni* that presents in itself certain characters of both sexes. The entire head including the color of the clypeus and sides of face is that of a male. The head is symmetrical and the antennae are both typically male. The thorax is rather stouter than that of the normal male. The abdomen is typically female and the genitalia including the weak sting is of that sex. The hind legs are identical with those of a normal female, the scopae being well developed. In the great majority of cases hermaphroditism is evidenced longitudinally; here the division is transverse.—J. R. MALLOCH, Urbana, Ill.